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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/908,993	07/19/2001	Hiroshi Iizuka	M1953-35	6849
7278	7590	10/03/2003	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			CINTINS, IVARS C	
			ART UNIT	PAPER NUMBER
			1724	
			DATE MAILED: 10/03/2003	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/908,993

Applicant(s)

IIZUKA ET AL.

Examiner

Ivars C. Cintins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>15</u> . | 6) <input type="checkbox"/> Other: _____ |

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5-9 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz (U.S. Patent No. 4,539,106) in view of Tucci et al. (U.S. Patent No. 4,320,010). Schwartz discloses a multi-tank water softening system of the type recited, and further teaches that regeneration can be initiated based on a signal from hardness sensors (see col. 2, line 67). Accordingly, this primary reference discloses the claimed invention with the exception of controlling regeneration based on a difference between a previous hardness measurement and a current hardness measurement of treated water. Tucci et al. discloses a similar water softening system, and teaches controlling regeneration based on a rate of change (i.e. a difference between previous and current measurements) of hardness in treated water (see col. 3, lines 24 and 31-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the hardness detection system of Tucci et al. for the hardness sensors of Schwartz, since this secondary reference hardness detection system is capable of determining the need for regeneration of a water softener in substantially the same manner as the hardness sensors of the primary reference, to produce substantially the same results.

Claims 3, 4, 10, 11, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz and Tucci et al. as applied above, and further in view of Tanabe et al. (U.S. Patent No. 5,811,012). The modified primary reference discloses the claimed invention with the exception of the recited non-regenerating polisher. Tanabe et al. discloses a system for purifying

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water, which system comprises a plurality of purification units, and further teaches (see col. 10, lines 10-13) utilizing a non-regenerating polisher in order to remove any residual ionic impurities from the previously purified water. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the modified primary reference with the non-regenerating polisher of Tanabe et al., in order to obtain the advantages (i.e. residual contaminant removal) disclosed by this secondary reference for the system of the modified primary reference.

Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz, Tucci et al. and Tanabe et al. as applied above, and further in view of Banham et al. (U.S. Patent No. 5,639,377). The modified primary reference discloses the claimed invention with the exception of the ionic form of the non-regenerating polisher. Banham et al. discloses a similar water softening system (see col. 1, line 16) having a polisher, and teaches that the media in the polisher should be the same as that in the main treatment unit (see col. 2, lines 33-44). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a polisher in sodium form in the system of the modified primary reference, since the main treatment units in this system are in sodium form, and Banham et al. teaches that the polisher should be in the same form as the rest of the treatment media.

Ammer (U.S. Patent No. 3,383,310) and Prosser (U.S. Patent No. 3,574,330) disclose conventional hardness detectors for water softening systems. Helmo (U.S. Patent No. 5,700,370) teaches (see col. 18, lines 42-48) comparing a current water quality measurement to a previous measurement.

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Applicant's arguments filed April 1, 2003 and June 30, 2003 have been noted and carefully considered, but no longer appear to be relevant in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Blaine Copenheaver, can be reached at (703) 308-1261.

The fax phone numbers for this art unit are: (703) 872-9311 for "Official" faxes after Final Rejection; (703) 872-9310 for all other "Official" faxes; and (703) 872-9492 for "Draft" and other "Unofficial" faxes.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.


Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
September 24, 2003